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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/664,554

09/19/2003

Gregory James Fyke

076574.002

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03/12/2009

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AUSTIN, TX 78759

EXAMINER

TILAHUN, ALAZAR

ART UNIT

PAPER NUMBER

2424

MAIL DATE

DELIVERY MODE

03/12/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/664,554 | <b>Applicant(s)</b><br>FYKE ET AL. |  |
|                              | <b>Examiner</b><br>ALAZAR TILAHUN    | <b>Art Unit</b><br>2424            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda. (2003/0186647), in view of Richards et al. (US 7,207,054 B1), herein refer to as Richards.

Regarding Claim 1, Ikeda teaches an integrated circuit receiver device for receiving digitally modulated broadcast signals from a satellite (digital satellite broadcast receiver (3), Fig.1), said integrated circuit receiver device comprising:

a tuner for amplifying and filtering satellite signals received from said antenna (tuner circuit (4), Fig.1) ;

a demodulator (QPSK demodulator circuit (22), Fig.1), coupled to said tuner (tuner circuit (4), Fig.1), for demodulating and decoding said received satellite signals (¶ [0026] -¶ [0027]);

Ikeda doesn't disclose a low-noise block (LNB) controller for generating and detecting a modulated tone to facilitate communications between said integrated circuit receiver device and an LNB feed attached to said antenna;

a voltage controller for generating a control signal to an external power transistor; and

Art Unit: 2424

a voltage selector for directing said voltage controller to supply a variable voltage to say LNB feed attached to said antenna.

In analogous art, Richards teaches a low-noise block (LNB) controller for generating and detecting a modulated tone to facilitate communications between said integrated circuit receiver device and an LNB feed attached to said antenna (LNB supply and control voltage regulator (30), Figs. 1,2, and 4A and Col.7, Lines 8-23);

a voltage controller for generating a control signal to an external power transistor (reference voltage generator (60), Figs.1, 2 and 4A); and

a voltage selector for directing said voltage controller to supply a variable voltage to said LNB feed attached to said antenna (voltage selector (124), Fig.4A).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to modify Ikeda with the teaching as taught by Richards in order the digital satellite broadcast receiver obtains broadcast signal from outdoor unit (antenna).

Regarding Claim 2, Ikeda in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 1. Richards further teaches wherein said voltage controller (reference voltage generator (60), Fig.2) receives a current sensing feedback (Col.6, Lines 10-15-it can be interpreted as the flow of current through an inductor 84 and capacitor 90) from an external current sensor (resistor divider 132 connected between power transistor 80 and ground, Fig.3) coupled to a power transistor (power transistor (80), Fig.3).

Regarding Claim 3, Ikeda in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 2. Richards further teaches wherein said

Art Unit: 2424

external current sensor includes a resistor connected between power transistor and ground (resistor divider 132 connected between power transistor 80 and ground, Fig.3).

Regarding Claim 4, in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 2. Richards further teaches wherein said external components includes an inductor, a diode and a capacitor (inductor 84, diode 92 and capacitor 90, Fig.3).

Regarding Claim 5, Ikeda in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 1. Richards further teaches wherein said voltage controller (reference voltage generator (60), Fig.2) receives a voltage sensing feedback (Col.7, Lines 53-56) from an external voltage sensor (resistor divider 132 connected between power transistor 80 and ground, Fig.3) coupled to an external line feed (transistor drive signal 110, Fig.3).

Regarding Claim 6, in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 5. Richards further teaches wherein said external voltage sensor includes two resistors connected in series (resistor divider 132 connected between power transistor 80 and ground, Fig.3).

Regarding Claim 7, Ikeda in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 1. Richards further teaches wherein said integrated circuit receiver device is a complementary-metal oxide semiconductor device (Col.6, Lines 16-18-it is interpreted as N-type Metal Oxide Field Effect Transistor (MOSFET)).

Regarding Claim 8, Ikeda teaches a satellite signal receiving system for receiving digitally modulated broadcast signals from a satellite (Fig.1), said satellite signal receiving system comprising:

a receiver antenna (antenna (1), Fig.1) having a low-noise block (LNB) amplifier (LNB (2), Fig. 1) and an LNB feed( ¶[0026]- it is interpreted as an intermediate–frequency signal output from LNB 2 is fed to the tuner circuit); and an integrated circuit receiver device (digital satellite broadcast receiver (3), Fig.1) having

a tuner for amplifying and filtering satellite signals received from said receiver antenna (tuner circuit(4), Fig.1);

a demodulator (QPSK demodulator circuit (22), Fig.1), coupled to said tuner (tuner circuit (4), Fig.1), for demodulating and decoding said received satellite signals (¶ [0026] -¶ [0027]);

Ikeda doesn't disclose an LNB controller for generating and detecting a modulated tone to facilitate communications between said integrated circuit receiver device and said LNB feed attached to said receiver antenna;

voltage controller for generating a control signal to an external power transistor; and

a voltage selector for directing said voltage controller to supply a variable voltage to said LNB feed attached to said receiver antenna.

In analogous art, Richards teaches an LNB controller for generating and detecting a modulated tone to facilitate communications between said integrated circuit receiver device and

Art Unit: 2424

said LNB feed attached to said receiver antenna (LNB supply and control voltage regulator (30), Figs. 1,2, and 4A and Col.7, Lines 8-23);

a voltage controller for generating a control signal to an external power transistor (reference voltage generator (60), Figs.1, 2 and 4A); and

a voltage selector for directing said voltage controller to supply a variable voltage to said LNB feed attached to said receiver antenna (voltage selector (124), Fig.4A).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to modify Ikeda with the teaching as taught by Richards in order the digital satellite broadcast receiver obtains broadcast signal from outdoor unit (antenna).

Regarding Claim 9, the additional limitation that corresponds to the additional limitation of claim 2 is analyzed as discussed with respect to the rejection of claim 2.

Regarding Claim 10, the additional limitation that corresponds to the additional limitation of claim 3 is analyzed as discussed with respect to the rejection of claim 3.

Regarding Claim 11, the additional limitation that corresponds to the additional limitation of claim 4 is analyzed as discussed with respect to the rejection of claim 4.

Regarding Claim 12, the additional limitation that corresponds to the additional limitation of claim 5 is analyzed as discussed with respect to the rejection of claim 5.

Regarding Claim 13, the additional limitation that corresponds to the additional limitation of claim 6 is analyzed as discussed with respect to the rejection of claim 6.

Art Unit: 2424

Regarding Claim 14, the additional limitation that corresponds to the additional limitation of claim 7 is analyzed as discussed with respect to the rejection of claim 7.

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda. (2003/0186647), in view of Richards et al. (US 7,207,054 B1), herein refer to as Richards and further in view of Matz et al. (US 6,889,421 B1), herein refer to as Matz.

Regarding Claim 15, Ikeda in view of Richards further teaches the integrated circuit receiver device as discussed in the rejection of claim 5.

Ikeda in view of Richards doesn't teach wherein said receiver antenna is a directional receiver antenna.

Ina analogues art, Matz teaches wherein said receiver antenna is a directional receiver antenna (Col.1, Lines 54-67).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to modify Ikeda in view of Richards with the teaching as taught by Matz in order to radiate greater power in one or more directions allowing for increased performance on transmit and receive and reduced interference from unwanted sources.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAZAR TILAHUN whose telephone number is (571)270-5712. The examiner can normally be reached on Monday through Friday 9.00AM-5.00PM.



Art Unit: 2424

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on (571)272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A. T.  
Examiner, Art Unit 2424

/Chris Kelley/  
Supervisory Patent Examiner, Art Unit 2424